



EARNEST WOTRING
PARTNER

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November 25, 2015

National Freedom of Information Officer
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW (2822T)
Washington, DC 20460

and

Regional Freedom of Information Officer
U.S. EPA, Region 9
75 Hawthorne Street (OPA-2)
San Francisco, CA 94105

Dear Sir/Madam:

In accordance with the provisions of the Freedom of Information Act, 5 U.S.C. § 552, I hereby request access to and/or copies of the following documents referenced in Exhibit A attached hereto.

Please note that pursuant to 40 C.F.R. § 2.120(c), we are willing to pay the appropriate costs attributable to this request, and are also willing to make the necessary arrangements to remit fees as may be required by the U.S. EPA. We need no prior notice of the amount of the costs or fees unless they exceed \$500.00. If estimated copying and search fees exceed \$500.00, please contact the undersigned before proceeding.

We are requesting that the Agency respond within twenty (20) days of receipt of this request, as specified in 5 U.S.C. § 552(a)(6)(A). Please do not hesitate to contact the undersigned at (713) 980-1713 if you have any questions regarding this request.

Very truly yours,

A handwritten signature in blue ink, appearing to read 'E. Wotring'.

Earnest W. Wotring

EWV/kr
Enclosure

EXHIBIT A

DEFINITIONS

“AECD” means an auxiliary emission control device as further explained in 40 C.F.R 86.1803-01.

“Certificates of Conformity” means a certificate of conformity issued by EPA approving of VW light-duty vehicles being introduced into United States commerce.

“Documents” includes “records” as defined in 40 C.F.R. § 2.100(b) and is used to mean the following: all reports, lists, interagency memoranda, intra-agency memoranda, data correspondence, opinion letters, ledgers, studies, investigations, schedules, photographs, sound reproductions, ledger books, graphs, catalogues, statements or any other handwritten, typewritten, printed, recorded or graphic material of any kind or description whatsoever.

“Vehicles” means the 2009 VW Jetta, 2009 Jetta Sportwagen, 2010 VW Jetta, 2010 VW Jetta Sportwagen, 2011 VW Golf, 2011 VW Jetta, 2011 VW Jetta Sportwagen, Audi A3, 2012 VW Beetle, 2012 VW Beetle Convertible, 2012 VW Golf, 2012, VW Jetta, 2012 VW Jetta Sportwagen, 2012 Audi A3, 2012 VW Passat, 2013 VW Beetle, 2013, VW Beetle Convertible, 2013 VW Golf, 2013 VW Jetta, 2013 VW Jetta Sportwagen, 2013 Audi A3, 2013 VW Passat, 2014 VW Beetle, 2014 VW Beetle Convertible, 2014 VW Golf, 2014 VW Jetta, 2014 VW Jetta Sportwagen, 2014 Audi A3, 2014 VW Passat, 2015 VW Beetle, 2015 VW Beetle Convertible, 2015 VW Golf, 2015 VW Golf Sportwagen, 2015 VW Jetta, 2015 VW Passat, 2015 Audi A3 as identified on page 5 of Exhibit 1.

“Volkswagen” or “VW” means Volkswagen AG and Volkswagen Group of America, and Audi AG.

REQUESTS

REQUEST NO. 1

Any and all response that EPA has received from Volkswagen regarding EPA’s September 18, 2015 Notice of Violation Letter attached as Exhibit 1.

REQUEST NO. 2

Certificates of Conformity for the Vehicles.

REQUEST NO. 3

Applications for Certificates of Conformity for the Vehicles.

REQUEST NO. 4

Software in the electronic control module for the Vehicles that served as an AECD.

REQUEST NO. 5

Any Documents regarding VW's dyno calibration as referenced on page 4 of Exhibit 1.

REQUEST NO. 6

Any testing results reflecting NOx emissions increasing by a factor of 10 to 40 times above EPA compliant levels as referenced on page 4 of Exhibit 1.

REQUEST NO. 7

Any communications with West Virginia University's Center for Alternative Fuels, Engines & Emissions or the International Council on Clean Transportation as referenced on page 4 of Exhibit 1.

REQUEST NO. 8

Communications from VW to CARB and PA that "increased emissions from [the Vehicles] could be attributed to various technical issues and unexpected in-use conditions" as referenced on page 4 of Exhibit 1.

REQUEST NO. 9

Any follow up testing of the Vehicles as referenced on page 4 of Exhibit 1.

REQUEST NO. 10

Communications between VW and CARB/EPA regarding VW's seeking Certificates of Conformity for 2016 model year diesel vehicles.

REQUEST NO. 11

Any communications reflecting that "[o]nly then did VW admit it had designed and installed a defeat device in these vehicles in the form of a sophisticated software algorithm that detected when a vehicle was undergoing emissions testing" as set forth on page 4 of Exhibit 1.

REQUEST NO. 12

Any admission by VW in early September 2015 that it has, since model year 2009, employed a defeat device to circumvent CARB and EPA emission test procedures as referenced on page 2 of Exhibit 2.

REQUEST NO. 13

VW's test results that it shared regarding the Vehicles as referenced on page 2 of Exhibit 2.

REQUEST NO. 14

VW's proposed recalibration fix for the Gen1 (Lean NOx Trap technology) and Gen2 (Selective Catalytic Reduction (SCR) technology) that VW shared with CARB staff on December 2, 2014 as referenced on page 2 of Exhibit 2.

REQUEST NO. 15

Communications between CARB/EPA and VW regarding implementing the software recall as referenced on page 2 of Exhibit 2.

REQUEST NO. 16

VW's recall of approximately 500,000 vehicles in the United States as referenced on page 2 of Exhibit 2.

REQUEST NO. 17

CARB's confirmatory testing results that it started on May 6, 2015 to determine the efficacy of the recall on both Gen1 and Gen2 vehicles as set forth on page 2 of Exhibit 2.

REQUEST NO. 18

Test results that CARB shared with VW and EPA on or about July 8, 2015 as set forth on page 2 of Exhibit 2.

REQUEST NO. 19

Any information or documents that VW disclosed to EPA and/or CARB that Gen1, Gen2 and the 2015 model-year improved SCR vehicle (known as Gen3) had a second calibration intended to run only during certification testing as set forth on page 2 of Exhibit 2.

REQUEST NO. 20

Any presentation, documents, or information provided by VW to EPA and/or CARB during the September 3, 2015 meeting as referenced on page 2 of Exhibit 2.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

SEP 18 2015

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

*VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED*

Volkswagen AG
Audi AG
Volkswagen Group of America, Inc.
Thru:

David Geanacopoulos
Executive Vice President Public Affairs and General Counsel
Volkswagen Group of America, Inc.
2200 Ferdinand Porsche Drive
Herndon, VA 20171

Stuart Johnson
General Manager
Engineering and Environmental Office
Volkswagen Group of America, Inc.
3800 Hamlin Road
Auburn Hills, MI 48326

Re: Notice of Violation

Dear Mr. Geanacopoulos and Mr. Johnson:

The United States Environmental Protection Agency (EPA) has investigated and continues to investigate Volkswagen AG, Audi AG, and Volkswagen Group of America (collectively, VW) for compliance with the Clean Air Act (CAA), 42 U.S.C. §§ 7401–7671q, and its implementing regulations. As detailed in this Notice of Violation (NOV), the EPA has determined that VW manufactured and installed defeat devices in certain model year 2009 through 2015 diesel light-duty vehicles equipped with 2.0 liter engines. These defeat devices bypass, defeat, or render inoperative elements of the vehicles' emission control system that exist to comply with CAA emission standards. Therefore, VW violated section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B). Additionally, the EPA has determined that, due to the existence of the defeat



devices in these vehicles, these vehicles do not conform in all material respects to the vehicle specifications described in the applications for the certificates of conformity that purportedly cover them. Therefore, VW also violated section 203(a)(1) of the CAA, 42 U.S.C. § 7522(a)(1), by selling, offering for sale, introducing into commerce, delivering for introduction into commerce, or importing these vehicles, or for causing any of the foregoing acts.

Law Governing Alleged Violations

This NOV arises under Part A of Title II of the CAA, 42 U.S.C. §§ 7521–7554, and the regulations promulgated thereunder. In creating the CAA, Congress found, in part, that “the increasing use of motor vehicles . . . has resulted in mounting dangers to the public health and welfare.” CAA § 101(a)(2), 42 U.S.C. § 7401(a)(2). Congress’ purpose in creating the CAA, in part, was “to protect and enhance the quality of the Nation’s air resources so as to promote the public health and welfare and the productive capacity of its population,” and “to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution.” CAA § 101(b)(1)–(2), 42 U.S.C. § 7401(b)(1)–(2). The CAA and the regulations promulgated thereunder aim to protect human health and the environment by reducing emissions of nitrogen oxides (NOx) and other pollutants from mobile sources of air pollution. Nitrogen oxides are a family of highly reactive gases that play a major role in the atmospheric reactions with volatile organic compounds (VOCs) that produce ozone (smog) on hot summer days. Breathing ozone can trigger a variety of health problems including chest pain, coughing, throat irritation, and congestion. Breathing ozone can also worsen bronchitis, emphysema, and asthma. Children are at greatest risk of experiencing negative health impacts from exposure to ozone.

The EPA’s allegations here concern light-duty motor vehicles for which 40 C.F.R. Part 86 sets emission standards and test procedures and section 203 of the CAA, 42 U.S.C. § 7522, sets compliance provisions. Light-duty vehicles must satisfy emission standards for certain air pollutants, including NOx. 40 C.F.R. § 86.1811-04. The EPA administers a certification program to ensure that every vehicle introduced into United States commerce satisfies applicable emission standards. Under this program, the EPA issues certificates of conformity (COCs), and thereby approves the introduction of vehicles into United States commerce.

To obtain a COC, a light-duty vehicle manufacturer must submit a COC application to the EPA for each test group of vehicles that it intends to enter into United States commerce. 40 C.F.R. § 86.1843-01. The COC application must include, among other things, a list of all auxiliary emission control devices (AECDs) installed on the vehicles. 40 C.F.R. § 86.1844-01(d)(11). An AECD is “any element of design which senses temperature, vehicle speed, engine RPM, transmission gear, manifold vacuum, or any other parameter for the purpose of activating, modulating, delaying, or deactivating the operation of any part of the emission control system.” 40 C.F.R. § 86.1803-01. The COC application must also include “a justification for each AECD, the parameters they sense and control, a detailed justification of each AECD that results in a reduction in effectiveness of the emission control system, and [a] rationale for why it is not a defeat device.” 40 C.F.R. § 86.1844-01(d)(11).

A defeat device is an AECD “that reduces the effectiveness of the emission control system under conditions which may reasonably be expected to be encountered in normal vehicle operation and

use, unless: (1) Such conditions are substantially included in the Federal emission test procedure; (2) The need for the AECD is justified in terms of protecting the vehicle against damage or accident; (3) The AECD does not go beyond the requirements of engine starting; or (4) The AECD applies only for emergency vehicles” 40 C.F.R. § 86.1803-01.

Motor vehicles equipped with defeat devices, such as those at issue here, cannot be certified. EPA, *Advisory Circular Number 24: Prohibition on use of Emission Control Defeat Device* (Dec. 11, 1972); *see also* 40 C.F.R. §§ 86-1809-01, 86-1809-10, 86-1809-12. Electronic control systems which may receive inputs from multiple sensors and control multiple actuators that affect the emission control system’s performance are AECDs. EPA, *Advisory Circular Number 24-2: Prohibition of Emission Control Defeat Devices – Optional Objective Criteria* (Dec. 6, 1978). “Such elements of design could be control system logic (i.e., computer software), and/or calibrations, and/or hardware items.” *Id.*

“Vehicles are covered by a certificate of conformity only if they are in all material respects as described in the manufacturer’s application for certification” 40 C.F.R. § 86.1848-10(c)(6). Similarly, a COC issued by EPA, including those issued to VW, state expressly, “[t]his certificate covers only those new motor vehicles or vehicle engines which conform, in all material respects, to the design specifications” described in the application for that COC. *See also* 40 C.F.R. §§ 86.1844-01 (listing required content for COC applications), 86.1848-01(b) (authorizing the EPA to issue COCs on any terms that are necessary or appropriate to assure that new motor vehicles satisfy the requirements of the CAA and its regulations).

The CAA makes it a violation “for any person to manufacture or sell, or offer to sell, or install, any part or component intended for use with, or as part of, any motor vehicle or motor vehicle engine, where a principal effect of the part or component is to bypass, defeat, or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this subchapter. and where the person knows or should know that such part or component is being offered for sale or installed for such use or put to such use.” CAA § 203(a)(3)(B), 42 U.S.C. § 7522(a)(3)(B); 40 C.F.R. § 86.1854-12(a)(3)(ii). Additionally, manufacturers are prohibited from selling, offering for sale, introducing into commerce, delivering for introduction into commerce, or importing, any new motor vehicle unless that vehicle is covered by an EPA-issued COC. CAA § 203(a)(1), 42 U.S.C. § 7522(a)(1); 40 C.F.R. § 86.1854-12(a)(1). It is also a violation to cause any of the foregoing acts. CAA § 203(a), 42 U.S.C. § 7522(a); 40 C.F.R. § 86-1854-12(a).

Alleged Violations

Each VW vehicle identified by the table below has AECDs that were not described in the application for the COC that purportedly covers the vehicle. Specifically, VW manufactured and installed software in the electronic control module (ECM) of these vehicles that sensed when the vehicle was being tested for compliance with EPA emission standards. For ease of reference, the EPA is calling this the “switch.” The “switch” senses whether the vehicle is being tested or not based on various inputs including the position of the steering wheel, vehicle speed, the duration of the engine’s operation, and barometric pressure. These inputs precisely track the parameters of the federal test procedure used for emission testing for EPA certification purposes. During EPA

violated section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B), each time it manufactured and installed into these vehicles an ECM equipped with the “switch” and “road calibration.”

The vehicles are identified by the table below. All vehicles are equipped with 2.0 liter diesel engines.

Model Year	EPA Test Group	Make and Model(s)
2009	9VWXV02.035N	VW Jetta, VW Jetta Sportwagen
2009	9VWXV02.0U5N	VW Jetta, VW Jetta Sportwagen
2010	AVWXV02.0U5N	VW Golf, VW Jetta, VW Jetta Sportwagen, Audi A3
2011	BVWXV02.0U5N	VW Golf, VW Jetta, VW Jetta Sportwagen, Audi A3
2012	CVWXV02.0U5N	VW Beetle, VW Beetle Convertible, VW Golf, VW Jetta, VW Jetta Sportwagen, Audi A3
2012	CVWXV02.0U4S	VW Passat
2013	DVWXV02.0U5N	VW Beetle, VW Beetle Convertible, VW Golf, VW Jetta, VW Jetta Sportwagen, Audi A3
2013	DVWXV02.0U4S	VW Passat
2014	EVWXV02.0U5N	VW Beetle, VW Beetle Convertible, VW Golf, VW Jetta, VW Jetta Sportwagen, Audi A3
2014	EVWXV02.0U4S	VW Passat
2015	FVGAV02.0VAL	VW Beetle, VW Beetle Convertible, VW Golf, VW Golf Sportwagen, VW Jetta, VW Passat, Audi A3

Enforcement

The EPA’s investigation into this matter is continuing. The above table represents specific violations that the EPA believes, at this point, are sufficiently supported by evidence to warrant the allegations in this NOV. The EPA may find additional violations as the investigation continues.

The EPA is authorized to refer this matter to the United States Department of Justice for initiation of appropriate enforcement action. Among other things, persons who violate section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B), are subject to a civil penalty of up to \$3,750 for each violation that occurred on or after January 13, 2009;^[1] CAA § 205(a), 42 U.S.C. § 7524(a); 40 C.F.R. § 19.4. In addition, any manufacturer who, on or after January 13, 2009, sold, offered for sale, introduced into commerce, delivered for introduction into commerce, imported, or caused any of the foregoing acts with respect to any new motor vehicle that was not covered by an EPA-issued COC is subject, among other things, to a civil penalty of up to \$37,500 for each violation.^[2] CAA § 205(a), 42 U.S.C. § 7524(a); 40 C.F.R. § 19.4. The EPA may seek, and district courts may order, equitable remedies to further address these alleged violations. CAA § 204(a), 42 U.S.C. § 7523(a).

^[1] \$2,750 for violations occurring prior to January 13, 2009.

^[2] \$32,500 for violations occurring prior to January 13, 2009.

The EPA is available to discuss this matter with you. Please contact Meetu Kaul, the EPA attorney assigned to this matter, to discuss this NOV. Ms. Kaul can be reached as follows:

Meetu Kaul
U.S. EPA, Air Enforcement Division
1200 Pennsylvania Avenue, NW
William Jefferson Clinton Federal Building
Washington, DC 20460
(202) 564-5472
kaul.meetu@epa.gov

Sincerely,

A handwritten signature in black ink, appearing to read "Phillip A. Brooks". The signature is fluid and cursive, with the first name "Phillip" being more prominent.

Phillip A. Brooks
Director
Air Enforcement Division
Office of Civil Enforcement

Copy:

Todd Sax, California Air Resources Board
Walter Benjamin Fisherow, United States Department of Justice
Stuart Drake, Kirkland & Ellis LLP



Matthew Rodriguez
Secretary for
Environmental Protection

Air Resources Board

Mary D. Nichols, Chair
9480 Teiatar Avenue, Suite 4
El Monte, California 91731 • www.arb.ca.gov



Edmund G. Brown Jr.
Governor

Reference No. IUC-2015-007

September 18, 2015

Volkswagen AG
Audi AG
Volkswagen Group of America, Inc.
Through:

David Geanakopoulos
Executive Vice President and General Counsel, Government Affairs
Volkswagen Group of America
2200 Ferdinand Porsche Drive
Herndon, VA 20171

Stuart Johnson
General Manager
Engineering and Environmental Office
Volkswagen Group of America
3800 Hamlin Road
Auburn Hills, MI 48326

Re: Admission of Defeat Device and California Air Resources Board's Requests

Dear Mr. Geanakopoulos and Mr. Johnson:

In order to protect public health and the environment from harmful pollutants, the California Air Resources Board (CARB) rigorously implements its vehicle regulations through its certification, in use compliance, and enforcement programs. In addition to the new vehicle certification process, CARB regularly tests automobiles to ensure their emissions performance is as expected throughout their useful life, and performs investigative testing if warranted. CARB was engaged in dialogue with our European counterparts concerning high in use emissions from light duty diesels. CARB deployed a number of efforts using portable measurement systems and other approaches to increase our understanding for the California fleet. In 2014, the International Council for Clean Transportation (ICCT) and West Virginia University (WVU) identified through their test program, and brought to the CARB's and the United States Environmental Protection Agency's (EPA) attention, concerns of elevated oxides of nitrogen (NOx) emissions over real world driving. The ICCT actions were consistent and

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Mr. Geanakopoulos and Mr. Johnson:
September 18, 2015
Page 2

complementary to our activities. This prompted CARB to start an investigation and discussions with the Volkswagen Group of America (VW) on the reasons behind these high NOx emissions observed on their 2.0 liter diesel vehicles over real world driving conditions. As you know, these discussions over several months culminated in VW's admission in early September 2015 that it has, since model year 2009, employed a defeat device to circumvent CARB and the EPA emission test procedures.

VW initiated testing to replicate the ICCT/WVU testing and identify the technical reasons for the high on-road emissions. VW shared the results of this testing and a proposed recalibration fix for the Gen1 (Lean NOx Trap technology) and Gen2 (Selective Catalytic Reduction (SCR) technology) with CARB staff on December 2, 2014. Based on this meeting, CARB and EPA at that time agreed that VW could implement the software recall; however, CARB cautioned VW that if our confirmatory testing showed that the fix did not address the on-road NOx issues, they would have to conduct another recall. Based on this meeting, VW initiated a voluntary recall in December 2014 which, according to VW, affected approximately 500,000 vehicles in the United States (~50,000 in California). The recall affected all 2009 to 2014 model-year diesel fueled vehicles equipped with Gen1 and Gen2 technology. This recall was claimed to have fixed among other things, the increased real world driving NOx issue.

CARB commenced confirmatory testing on May 6, 2015 to determine the efficacy of the recall on both the Gen1 and Gen2 vehicles. CARB confirmatory testing was completed on a 2012 model-year Gen2 VW, test group CVWX02.0U4S, to be followed with Gen1 testing. CARB staff tested this vehicle on required certification cycles (FTP, US06 and HWFET) and over-the-road using a Portable Emission Measurement Systems (PEMS). On some certification cycles, the recall calibration resulted in the vehicle failing the NOx standard. Over-the-road PEMS testing showed that the recall calibration did reduce the emissions to some degree but NOx emissions were still significantly higher than expected.

To have a more controlled evaluation of the high NOx observed over the road, CARB developed a special dynamometer cycle which consisted of driving the Phase 2 portion of the FTP repeatedly. This special cycle revealed that VW's recall calibration did increase Diesel Exhaust Fluid (DEF) dosing upon initial startup; however, dosing was not sufficient to keep NOx emission levels from rising throughout the cycle. This resulted in uncontrolled NOx emissions despite the SCR reaching sufficient operating temperatures.

CARB shared its test results with VW on July 8, 2015. CARB also shared its results with the EPA. Several technical meetings with VW followed where VW disclosed that Gen1, Gen2 and the 2015 model-year improved SCR vehicle (known as the Gen3) had a second calibration intended to run only during certification testing. During a meeting on September 3, 2015, VW admitted to CARB and EPA staff that these vehicles were

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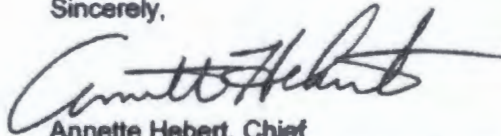
Mr. Geanakopoulos and Mr. Johnson:
September 18, 2015
Page 3

designed and manufactured with a defeat device to bypass, defeat, or render inoperative elements of the vehicles' emission control system. This defeat device was neither described nor justified in the certification applications submitted to EPA and CARB. Therefore, each vehicle so equipped would not be covered by a valid federal Certificate of Conformity (COC) or CARB Executive Order (EO) and would be in violation of federal and state law.

Based upon our testing and discussions with VW, CARB has determined that the previous recall did not address the high on-road NOx emissions, and also resulted in the vehicle failing certification standards. Therefore, the recall is deemed ineffective and is deemed unapproved. VW must immediately initiate discussions with CARB to determine the appropriate corrective action to rectify the emission non-compliance and return these vehicles to the claimed certified configuration. CARB program and enforcement staff is prepared to work closely with VW to find corrective actions to bring these vehicles into compliance.

CARB has also initiated an enforcement investigation of VW regarding all model-year 2009 through 2015 light-duty diesel vehicles equipped with 2.0 liter engines. We expect VW's full cooperation in this investigation so this issue can be addressed expeditiously and appropriately.

Sincerely,



Annette Hebert, Chief
Emissions Compliance, Automotive Regulations and Science Division

cc: Mr. Byron Bunker, Director
Compliance Division
Office of Transportation and Air Quality
Office of Air and Radiation
U.S. Environmental Protection Agency

Mr. Linc Wehrly, Director
Environmental Protection Agency
Light-Duty Vehicle Center
2000 Traverwood Drive
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Dr. Todd P. Sax, Chief
Enforcement Division
California Air Resources Board

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